

Amendments to the Drawings:

FIG. 1 has been amended to include motors 31 and 33. FIGs. 2 and 4 have been amended to identify materials. FIGs. 3 and 5 have been amended to include specific angle values. The attached replacement sheets, which include FIGs. 1-5, replace the original sheets that included FIGs. 1-5.

Attachment: Replacement Sheets
Annotated Sheets

REMARKS/ARGUMENTS

Reconsideration of the subject application is requested. The drawings have been amended to include the elements suggested by the Examiner. Paragraph [0020] of the specification has been amended to correspond to the amended drawings.

Claims 1, 3-9 and 11-17 remain in the application. Claims 2 and 10 have been canceled. New claim 18 has been added. Claims 1 and 9 have been amended to specify that the first achromatic prism doublet positioned on the first axis includes a first prism having a first surface lying in a plane substantially perpendicular to the axis and a second surface inclined with respect to the axis, and a second prism having a third surface lying in a plane substantially parallel to the second surface and a fourth surface inclined with respect to the axis; and the second achromatic prism doublet positioned on the first axis includes a third prism having a fifth surface lying in a plane substantially perpendicular to the axis and a sixth surface inclined with respect to the axis, and a fourth prism having a seventh surface lying in a plane substantially parallel to the sixth surface and an eighth surface inclined with respect to the axis. This prism structure is shown in the application in FIG. 1 and described in paragraphs [0021] and [0022].

Claims 3-7 and 11-15 have been editorially amended to conform to amended claims 1 or 9 as appropriate. New claim 18 specifies that rotation of the first and second prism doublets provides a pan and tilt range of 30 degrees in each axis. This feature is described in paragraph [0032] of the specification.

In Section 2 of the Detailed Action portion of the Office Action, claims 1, 2, 6-10 and 14-17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama (U.S. Patent No. 5,461,513). Figure 10 of Maruyama was cited as showing an apparatus 30 including an imaging device 10; a first prism doublet 50 with motor 80 and a second prism doublet 50 with motor 81. The prism doublets are rotated by the motors 80 and 81. Thus, Maruyama was considered to show the claimed invention, except for the prism doublets being achromatic. It was considered to be self-evident to the ordinary workman in the art that the prisms should be achromatic, since the invention is directed

towards a photography application. The apparatus of Fig. 10 of Maruyama was further considered to perform the steps of the method claims.

This rejection is traversed. The Applicants respectfully submit that amended claims 1 and 9 include features that are neither disclosed nor suggested by Maruyama. In particular, claims 1 and 9 have been amended to specify that the first achromatic prism doublet positioned on a first axis includes a first prism having a first surface lying in a plane substantially perpendicular to the first axis and a second surface inclined with respect to the first axis, and a second prism having a third surface lying in a plane substantially parallel to the second surface and a fourth surface inclined with respect to the first axis; and the second achromatic prism doublet positioned on the first axis includes a third prism having a fifth surface lying in a plane substantially perpendicular to the first axis and a sixth surface inclined with respect to the first axis, and a fourth prism having a seventh surface lying in a plane substantially parallel to the sixth surface and an eighth surface inclined with respect to the first axis. This arrangement of prisms and surfaces thereof is neither disclosed nor suggested by Maruyama.

The Applicants respectfully assert that, contrary to the assertions of the Office Action, Maruyama does not show an apparatus for providing pan and tilt to a stationary imaging device. Rather, Maruyama shows an image stabilizing apparatus capable of correcting a displacement of the image in order to prevent an image deterioration caused by an accidental inclination or so-called camera shake when a picture is being taken (col. 1, lines 10-15). Thus the system of Maruyama compensates for movement of the imaging device. In contrast, the present invention provides an apparatus and method for providing pan and tilt capability to a stationary imaging device. Thus the Applicants' invention and Maruyama provide different functions and solve different problems.

The Applicants respectfully submit that Maruyama neither discloses nor suggests a structure having a first achromatic prism doublet positioned on a first axis including a first prism having a first surface lying in a plane substantially perpendicular to the first axis and a second surface inclined with respect to the first axis, and a second

prism having a third surface lying in a plane substantially parallel to the second surface and a fourth surface inclined with respect to the first axis; and the second achromatic prism doublet positioned on the first axis including a third prism having a fifth surface lying in a plane substantially perpendicular to the first axis and a sixth surface inclined with respect to the first axis, and a fourth prism having a seventh surface lying in a plane substantially parallel to the sixth surface and an eighth surface inclined with respect to the first axis. Furthermore, Maruyama neither discloses nor suggests the use of such structure to provide pan and tilt capability for a stationary camera. Claims 6-8 depend from claim 1, and claims 14-17 depend from claim 9, and therefore also include these features.

It is desirable to provide pan and tilt capability over a large range of pan and tilt angles. As stated in the application, using the Applicants' invention, high quality images have been obtained over a pan and tilt range of 30 degrees in each axis. The structure defined in amended claims 1 and 9 provides this large pan and tilt capability without requiring movement of the camera.

In Section 3 of the Detailed Action portion of the Office Action, claims 3-5 and 11-13 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Maruyama as applied to claims 2 and 10 above, and further in view of Mooney et al. (U.S. Patent No. 6,935,757 B1) and/or Knapp (U.S. Patent No. 6,747,738 B2).

Fig. 10 of Maruyama was cited as meeting the claimed invention, except for the first prism comprising zinc-sulfide and the second prism comprising sapphire or germanium and the first angle being substantially 88.632° and the second angle being substantially 100.624° . Mooney et al. was cited as showing that prism pairs are typically made of zinc-sulfide and sapphire. Knapp was cited as teaching that prisms can be made of different materials, including germanium. It was considered to be self-evident that the angle of the prism surface as well as its index of refraction affects the position and angle of the output beam of light. It was further considered to have been obvious to one of ordinary skill in the art, at the time of Applicants' invention, to make the prism doublets 50 in Fig. 10 of Maruyama of conventional materials, such as zinc-sulfide, sapphire and germanium in order to obtain a desired configuration of the prisms. It was also

considered to have been obvious to make the first angle being substantially 88.632° and the second angle being substantially 100.624° in order to obtain a desired amount of shifting of the image.

Since amended claims 3-5 depend from claim 1 and amended claims 11-13 depend from claim 9, the rejection is traversed for the reasons set forth above with respect to the rejection of claims 1 and 9.

In Section 4 of the Detailed Action portion of the Office Action, the drawings have been objected to under 37 CFR 1.83(a) for failure to show every feature of the invention specified in the claims. This objection has been addressed in the enclosed substitute drawing sheets where the at least one motor of claim 1; the zinc-sulfide prism of claims 3, 4, 11 and 12; the sapphire prism of claims 3 and 11; the germanium prism of claims 4 and 12; and the angles 88.632° and 100.624° of claims 5 and 13 are now shown in the amended drawings.

In view of the foregoing, an early Notice of Allowance of this application is respectfully requested. In the event that any outstanding matters remain in connection with this application, the Examiner is invited to telephone the undersigned at (412) 263-4399 to discuss such matters.

Respectfully submitted,

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1/5

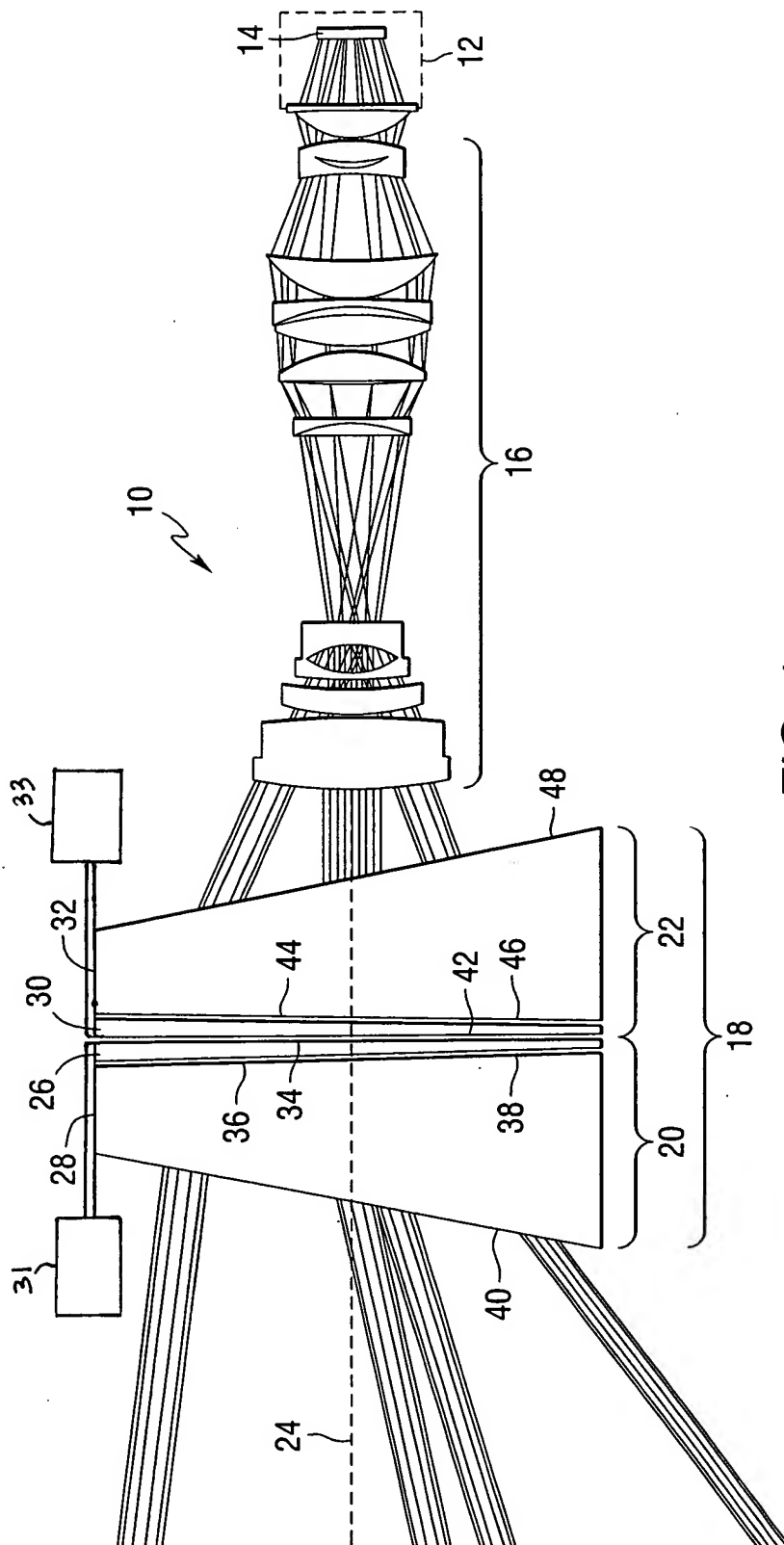


FIG. 1

2/5

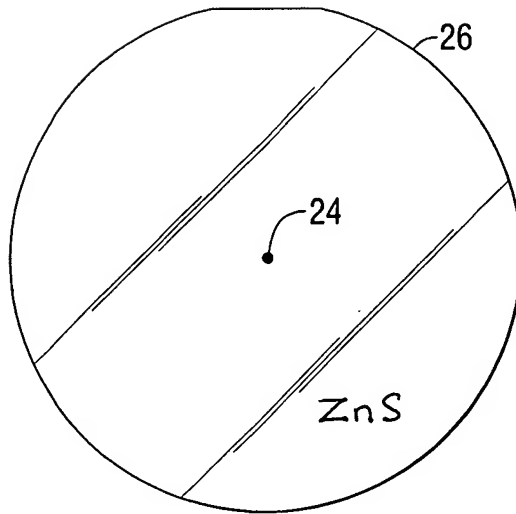


FIG. 2

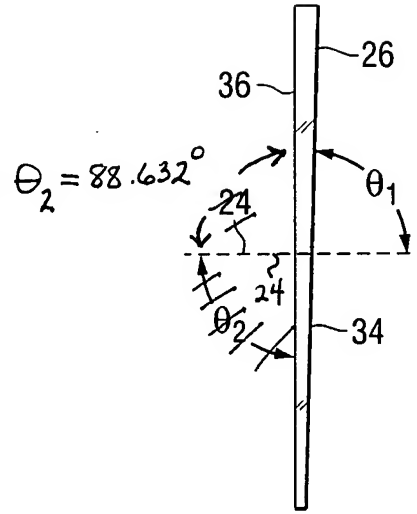


FIG. 3

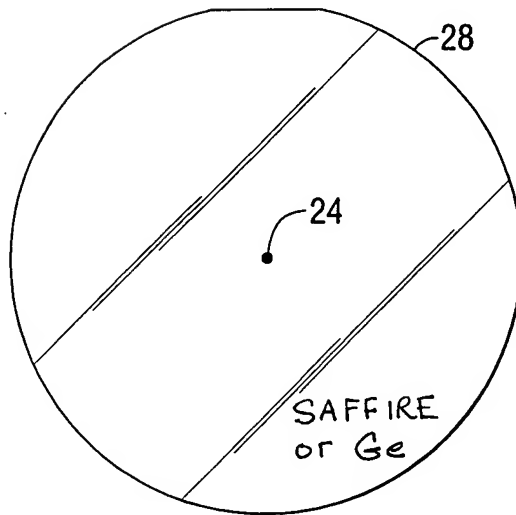


FIG. 4

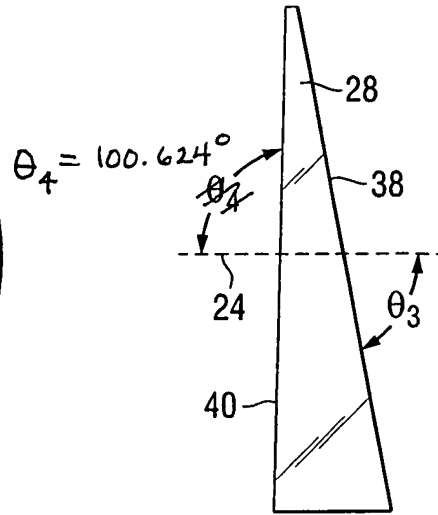


FIG. 5